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Agriculture teachers and supervisors may use this material in developing training programs to meet the educational needs of persons engaged in or preparing to engage in production agriculture and off-farm agricultural occupations. Vocational education in agriculture must contribute to the educational objectives of American public education, the preparation of persons for gainful employment, and the training and retraining of youth and adults. Major objectives of vocational and technical education programs in agriculture are: (1) to develop competencies in production agriculture and nonfarming agricultural occupations, (2) to develop an understanding of career opportunities in agriculture, (3) to secure satisfactory placement and to advance in agriculture, and (4) to develop human relations abilities, and abilities for effective leadership. The appendix describes the development of these objectives for agricultural education. (WB)

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / OFFICE OF EDUCATION

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OBJECTIVES FOR VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

Prepared by
Joint Committee of the
U.S. Office of Education
and the
American Vocational Association

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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FOREWORD

Agriculture is a dynamic and changing industry. It is basic to the progress of America, contributing substantially to our Nation's efforts in maintaining world peace and in helping other nations to maintain democratic stability. In this important role, agriculture requires the services of competent and dedicated workers. Some of these are engaged in production agriculture, or farming; many others work in nonfarming argicultural occupations to provide the supplies and services that farmers need, and to transport and market the product of the farm.

Increasingly complex educational needs have developed for those who will work in the broad field of agriculture, including education not only for farmers, but also for those who will be employed in the nonfarm occupations which involve knowledge and skills in agricultural subjects.

While there has been a decrease in the number of family owned and operated farms, these farms are now larger and involve highly specialized mechanization and management. The need for special skills extends today to the hired farmworker. A great number of nonfarm agricultural occupations, some of them highly technical, have evolved. The number of persons engaged in part-time farming is increasing. Preparation for farming and other agricultural occupations requires changing patterns of education and training. Therefore, objectives for vocational and technical education in agriculture must be restated to reflect emerging concepts and changes in the occupational needs of workers.

The Vocational Education Act of 1963 made provisions to broaden and strengthen the national program of vocational education in agriculture. This publication, therefore, is designed to supersede Monograph No. 21, "Educational Objectives in Vocational Agriculture" which was last revised and published by the U.S. Office of Education in 1955.

Development of these objectives was a joint project of the Agricultural Education Section of the American Vocational Association, and program development and administrative personnel within the Office of Education. A detailed account of the development procedure is appended.

Under provisions of the Smith-Hughes Act of 1917, and subsequent acts, Federal participation with the States in financing programs for vocational education in agriculture was limited to those programs for "persons over 14 years of age who have entered upon or are preparing to enter upon the work of the farm or of the farm home." Public Law 88–210, commonly referred to as the Vocational Education Act of 1963, amends the previous legislation to provide that "any amounts allotted * * * for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home * * *."

This publication is designed primarily for use by teachers of vocational agriculture in developing training programs that will meet the educational needs of persons engaged, or preparing to engage, in farming; and also for those whose vocational interest is in nonfarming occupations which require knowledge and skills in agricultural subjects. The material presented herein is intended as a guide of basic principles to be considered in preparing teaching programs, not as a course of study.

The booklet also should be useful to supervisors in helping teachers develop effective instructional programs; to teacher educators in preparing courses of study for training and retraining teachers; and to school administrators, lay leaders, and others who assist in the development of agricultural education programs, or who desire a sound basis for program analysis and evaluation.

It is recognized that there will be many different approaches in the realization of the objectives, depending upon the characteristics of the individuals being trained, local situations, and types of problems being dealt with in the educational program. The objectives presented here are universal. Each teacher, however, will need to develop more specific instructional objectives to meet the needs and situations of his community.

It also should be understood that educational objectives in vocational agriculture are not static, that changes will be made as needs change. It is the responsibility of every person involved in agricultural education to be constantly alert to changes taking place and to adjust instructional programs accordingly.

WALTER M. ARNOLD,
Assistant Commissioner for Vocational and Technical Education

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INTRODUCTION

The objectives of vocational and technical education in agriculture reflect the occupational needs of workers in agriculture and supplement the objectives of general and vocational education.

Agriculture, in common with other business and industry, has experienced rapid and continual change. This has resulted in misconceptions and questions as to what the term "agriculture" includes and implies. Some think of "agriculture" solely as "farming," and they use these two terms synonymously. Others regard agriculture as a single occupation in which persons with similar training perform identical tasks.

Agriculture is a broad category, of which farming or "production agriculture" is only one phase. Farming, in turn, is a group of occupations, with each occupation requiring specific skills and abilities, some similar and some different. Moreover, farming is the *basic* root from which all other phases of agriculture grow—distribution, processing, and service occupations.

These emerging concepts reflect the changes in agriculture which are occurring at an accelerated pace. Following are some of the more dramatic changes:

—Application of science and mechanized equipment has transformed production agriculture.

—Operational skills and managerial ability are essential requisites for success in farming.

—Efficiency of output and the productivity of farm units continue to improve.

—Increased urbanization, made possible through rising agricultural productivity, has resulted in many of the traditional agricultural activities being moved off the farm. New agricultural occupations have emerged in the distribution, processing, and service areas.

—More people are employed in other phases of agriculture than in farming itself.

—The rate of technological change in agricultural occupations makes it necessary to continue occupational training throughout the worker's career.

—Our Nation has become a part of the international community. World events are playing an increasingly important role in agriculture.

—The significant development of organizations and leadership services in agriculture has provided additional employment opportunities.

NEEDS FOR AGRICULTURAL EDUCATION

The magnitude of these changes emphasizes the importance of providing workers in the broad field of agriculture with the best possible educational opportunities. Education is required not only to enable them to acquire the new technical skills, abilities, and knowledge needed to assure an adequate supply of food and fiber for the Nation, but also to acquire those fundamental abilities of leadership and citizenship needed by all citizens.

In fulfilling its responsibilities, vocational and technical education in agriculture contributes to the general education objectives of the public schools. This is attained through study of the application of principles of science to the production, processing, distribution, and servicing operations in agriculture. Vocational education in agriculture also concerns itself with the development of attitudes and abilities needed for effective leadership and citizenship.

Vocational and technical education is an accepted responsibility of public education. It is an integral part of the total educational program, broadening and enhancing it.

The unique contribution of vocational and technical education is reflected in this statement of position by the U.S. Office of Education:

> FIRST, training for work should be a fundamental aspect of education.
>
> SECOND, the means and goals of education should reflect the economic and social conditions of the present and the likely trends of the future.
>
> THIRD, vocational education should stretch its dimensions to reach those for whom a minimum education is the only hope for dignity and economic freedom, and those who enjoy technical talents.
>
> FINALLY, vocational education should inculcate the appreciation of ideas as well as the performance of techniques. Voca-

tional education should not be regarded as a substitute for a sound academic background, but as an integrated part of a grand educational plan.

In accepting the premise that vocational and technical education in agriculture is an essential part of a well-balanced vocational education program, which itself is part of the total comprehensive school program, vocational educators have developed program objectives and procedures that are compatible with the central purpose of general education.

> The purpose which runs through and strengthens all other educational purposes—the common thread of education—is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world.
>
> More than ever before, and for an ever-increasing proportion of the population, vocational competence requires developed rational capacities. The march of technology and science in the modern society progressively eliminates the positions open to low-level talents. The man able to use only his hands is at a growing disadvantage as compared with the man who can also use his head.[1]

PURPOSES

The purposes of vocational and technical education in agriculture are derived from the broad setting of our democratic society, the public schools, agricultural technology, and vocational and technical education. These purposes are threefold: (1) To contribute to the educational objectives of American public education; (2) To contribute to the controlling purpose of vocational education, which is to "fit persons for gainful employment;" and (3) Specifically, to provide training and retraining for youths and adults which is realistic in light of actual or anticipated opportunities for employment.

In fulfilling these purposes, vocational and technical education in agriculture will be continually evaluated, adjusted, and extended to meet the needs and demands of current technological developments and new social and economic conditions.

In view of the dynamic nature of agriculture and of our society, diversity, flexibility, and adaptability will characterize programs of the future. No single pattern can adequately fulfill all of these purposes.

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[1] Educational Policies Commission, *The Central Purpose of American Education*. Washington: National Education Association, 1961, p. 12.

PERSONS CONCERNED

Programs to be continued and evolved must provide the training and education needed by "persons of all ages, in all communities" to prepare them for gainful employment in agriculture. Vocational education in agriculture should open the door to equal educational opportunity for all citizens, without regard to academic ability or socioeconomic background. Clearly, there is a need for providing a broad range of educational opportunities in agriculture to all who are interested in and who will benefit from it. Those persons who could benefit range from the highly talented to the academically handicapped, the socially and economically deprived, and the technologically displaced.

Specifically, vocational and technical education in agriculture is concerned with:

1. Secondary school youths, out-of-school youths, and adults who wish full-time vocational and technical training for entry into agriculture;
2. Employed youths and adults who need vocational and technical training in agriculture to upgrade their occupational performance;
3. Those youths and adults who cannot benefit from regular vocational and technical education programs in agriculture, but who can benefit from special programs designed to meet their needs.

Finally, there is implied in the technological developments in the world of work a merging of traditional occupational categories. Therefore, in carrying out the mandate to develop occupational competence in agriculture, we should constantly be aware of the need for and desirability of sharing this educational responsibility with other vocational education services, and with general agricultural and educational agencies and groups, including those concerned with the teaching of agriculture as a nonvocational subject.

MAJOR PROGRAM OBJECTIVES FOR VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

1. To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture
2. To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture.

3. To develop an understanding of and appreciation for career opportunities in agriculture and the preparation needed to enter and progress in agricultural occupations.
4. To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education
5. To develop those abilities in human relations which are essential in agriculture occupations
6. To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities

Major Objectives and Their Contributory Objectives

The following section is designed to amplify and explain the major program objectives. The attainment of these objectives depends upon many contributory objectives.

Objective 1. To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture

The attainment of this major objective requires competencies in one or more areas of plant science, animal science, soil science, agricultural business management, and agricultural mechanization. There are several different occupational levels at which individuals are engaged in production agriculture (owner-operator, manager, tenant, technician, laborer, etc.). Since the knowledge and skills needed at different levels vary, educational programs designed to prepare and upgrade individual workers must also vary in length and level of instruction.

Fulfilling this major objective requires coordination of the course of study and supervised occupational experience.

Specific teaching objectives should be established on the basis of the abilities required of an individual to make satisfactory management decisions and/or perform certain operations in production agriculture. These may be determined by making an analysis of the operative and managerial functions performed by successful farmers or operators of comparable agricultural production businesses.

The following contributory objectives are applicable to farmers and ranchers who produce food and fiber and to operators of greenhouses who produce food and ornamental plants. They also apply to individuals who are involved in the business of producing nursery stock, of landscaping and maintaining grounds, as well as those who grow trees for commercial purposes.

Foremost among contributory objectives are the abilities to:

1. Begin and advance in production agriculture;
2. Manage an agricultural business effectively by:
   a. Producing agricultural products efficiently,
   b. Marketing agricultural products advantageously,
   c. Financing an agricultural business successfully,
   d. Providing for efficient agricultural buildings and mechanization,
   e. Making decisions based upon the analysis of accurate and proper records,
   f. Conserving soil and other natural resources,
   g. Applying effective employee-employer relationships,
   h. Making the most efficient use of physical and human resources in conducting the agricultural business, which may also involve supplemental or alternate sources of income.
3. Maintain a favorable home environment.

Objective 2. To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture

The efficient production of agricultural commodities requires many goods and services usually provided by specialized businesses. The productivity of the agricultural economy will be influenced by the competencies of the workers in these businesses. Therefore, appropriate educational programs must be designed, not only for those who produce agricultural commodities, but also for those who are engaged, or will engage, in other agricultural occupations—the processing, distribution, and service segments of agriculture.

Experience and training in production agriculture are either essential or highly advantageous for workers in all agricultural occupations.

Foremost among contributory objectives are the abilities to:

1. Understand and apply the principles of soil science, plant science, animal science, management, and mechanization as they relate to agricultural occupations;
2. Perform the managerial and operative activities necessary to enter and progress in an agricultural occupation by:
   a. Understanding the marketing and processing of agricultural products, and the provision of related services;
   b. Understanding principles of selling supplies and providing services to meet specific needs of production agriculture;

c. Understanding how agricultural businesses are operated and financed, and how these businesses render service to production agriculture;
d. Understanding what is expected of an employee;
e. Understanding employer policies and procedures;
f. Maintaining effective customer relations;
g. Respecting and wisely using the property of the employer;
h. Preparing, maintaining, interpreting and using records and reports;
i. Understanding, interpreting, and following memorandums, manuals, and written policies and regulations.

Objective 3. To develop an understanding of and appreciation for career opportunities in agriculture and the preparation needed to enter and progress in agricultural occupations

Modern agriculture is broad and complex, involving hundreds of professional and technical occupations which require extensive knowledge and highly developed skills, as well as some which require only relatively simple manipulative abilities. Current trends indicate that agriculture will become even more complex and specialized in the future. Thus, individuals aspiring to enter and/or progress in agricultural occupations should acquire knowledge concerning the types of jobs and their characteristics. This would include the number of annual employment opportunities, abilities required, beginning salaries, advancement opportunities, and promise of satisfaction.

In making a tentative occupational choice and beginning to prepare for it, the prospective worker must assess his individual characteristics and interests in relation to the requirements of the occupation and the employment opportunities it affords.

Foremost among contributory objectives are the abilities to:

1. Understand and appreciate the importance of agriculture to the Nation's economy and its impact upon the daily lives of all citizens;
2. Determine the types and numbers of occupational opportunities in agriculture;
3. Evaluate information concerning agricultural occupations;
4. Study pertinent occupational information in relation to personal characteristics, aptitudes, and interests;
5. Obtain exploratory work experiences in selected occupations under proper supervision;
6. Appreciate the need for pursuing a program of continuing education to keep abreast of and advance in the occupation.

Objective 4. To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education

The main objective of students of vocational and technical education is successful entry and advancement in an occupation. For many occupations, vocational education in full-time high school classes, followed by part-time enrollment in post-high school classes, is sufficient for satisfactory placement and advancement.

An increasing number of agricultural occupations require technical or professional education. For students who desire placement at these levels, courses in high school designed to develop vocational competence, supported by other selected subjects, make up a desirable pretechnical or preprofessional program of instruction. Such preparation develops attitudes and abilities which enable the student to complete technical and professional programs successfully.

Recognizing the dynamic nature of agricultural occupations, no educational program should be considered as terminal. Students must understand that continuous education will be a normal pattern for agricultural workers at all levels.

A student should be aware of occupational opportunities and requirements throughout his preparation for a chosen field. Instructors, guidance counselors, and professional placement personnel can assist the student in securing employment. Individual initiative and achievement, however, will largely determine the employee's future achievement.

Instructors are primarily responsible for developing the student's needed abilities. In fulfilling these responsibilities, they should enlist the aid of other competent persons.

Foremost among contributary objectives are the abilities to:

1. Utilize the services of appropriate agencies and organizations in locating and securing satisfactory employment;
2. Analyze opportunities for self-employment;
3. Analyze job opportunities and requirements, and assess personal abilities and interests in terms of these requirements;
4. Apply for employment and participate in employment interviews;
5. Plan and pursue a program of continuing education appropriate to the requirements of the vocation;
6. Make satisfactory progress and advancement in an occupation.

Objective 5. To develop those abilities in human relations which are essential in agricultural occupations

Vocational and technical education is concerned with the optimum development of each individual. It is not limited to the development of specific and narrow occupational competencies. Therefore, it shares with other segments of education the responsibility for the development of essential human relations abilities. Occupational success is influenced by the interpersonal relationships between the worker, his coworkers, his employer, and society in general. In many instances the successful application of specific occupational competencies depends on effective human relations.

Foremost among contributory objectives are the abilities to:

1. Appreciate the dignity of work and the need for every individual to make maximum contributions toward his occupation, and to the advancement of his family, his community, and his nation;
2. Establish and maintain effective and ethical working relationships with associates;
3. Communicate effectively;
4. Appreciate and follow desirable behavioral standards;
5. Develop acceptable personal and work habits.

Objective 6. To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities

In a democracy, every occupational area functions in a complex social setting. There is need for developing constructive, effective leadership abilities in all persons. Modern agriculture demands individuals who can provide leadership in developing programs and policies that will create and maintain an optimum climate for agriculture consistent with the general welfare.

Participation in intracurricular activities of the vocational agriculture student organization (Future Farmers of America) develops individual leadership and stimulates students to set and achieve worthwhile vocational goals. A national organization with State and local units provides a practical laboratory for developing democratic leadership, cooperation, and good citizenship.

Foremost among contributory objectives are the abilities to:

1. Associate with and become a functioning member of an organization;
2. Identify and participate in desirable activities for developing and improving agricultural leadership;

3. Initiate activities that improve agriculture and the community;
4. Cooperate for the common good in agricultural and civic activities;
5. Develop and maintain desirable relationships between rural and urban groups;
6. Participate in the development of local, State, National, and international policies and programs affecting agriculture.

APPENDIX

DEVELOPMENT OF OBJECTIVES FOR AGRICULTURAL EDUCATION

In 1929, a committee on training objectives for vocational education in agriculture was appointed by L. R. Humpherys, Vice President for Agriculture, American Vocational Association. This committee met with the Agricultural Education Service of the Federal Board for Vocational Education in the preparation of a preliminary report for consideration by the Agricultural Education Section of the American Vocational Association in 1929 and again in 1930. The final report was published as "Training Objectives in Vocational Education in Agriculture," Bulletin No. 153, May 1931, by the Federal Board for Vocational Education.

A committee of leaders representing the four administrative regions for vocational education in agriculture was appointed in 1938 by the U.S. Office of Education and approved by the American Vocational Association to review Bulletin No. 153 and make suggestions for its revision. These suggestions were reviewed and incorporated in Monograph 21, issued in 1940. Later, further review was made of Monograph No. 21 under the direction of H. B. Swanson, Agricultural Education Branch, U.S. Office of Education. The result was Monograph No. 21, revised 1955, under the title "Educational Objectives in Vocational Agriculture."

The basic National Vocational Acts (Smith-Hughes and George-Barden) provided for cooperation with the States in the promotion and further development of vocational education, including agriculture. These acts stated that the controlling purpose of such education would be to prepare persons for useful employment, and that agricultural education would be of less than college grade and designed to meet the needs of persons over 14 years of age who had entered or were preparing to enter upon the work of the farm and farm home. Public Law 88–210, known as the Vocational Education Act of 1963, makes available further Federal funds for vocational education and broadens the program in agriculture. It states "any amounts allotted * * * for agriculture may be used for vocational education in any occupation involving knowldege and skill in agricultural subjects, whether or

not such occupation involves work of the farm or of the farm home * * *."

The broadened and enlarged program outdated Monograph No. 21, revised. In consideration of this change, it was necessary that the objectives be rewritten to encompass the new provisions. To implement the needed revision, a National Committee was selected at the American Vocational Association (AVA) meeting in 1963 by R. C. S. Sutliff, Vice President for Agriculture, AVA, and A. W. Tenney, then Director of the Agricultural Education Branch in the U.S. Office of Education. This committee met in Washington, D.C., May 14–16, 1964, with Mr. Sutliff as chairman. Each of the four regional conferences for vocational agriculture were alerted to discuss the objectives and submit recommendations to the men from the region serving on the committee.

Those serving on the committee included—R. C. S. Sutliff, F. D. Johnson, J. T. Wall, B. L. Brown, A. G. Bullard, E. P. Hilton, E. H. Knebel, D. R. McClay, M. J. Peterson, O. L. Snowden, S. S. Sutherland, R. E. Taylor, C. D. Watson, and W. G Weiler. Members of the agricultural education staff of the U.S. Office of Education who served as consultants included A. W. Tenney, H. F. Duis, M. C. Gaar, W. P. Gray, A. H. Hollenberg, H. N. Hunsicker, E. J. Johnson, R. E. Naugher, and D. M. Nielsen. The Future Farmers of America was represented by J. J. Farrar.

The many suggestions of the committee and consultants, including those from the regional conferences, were referred by the committee to R. E. Taylor for the development of a preliminary report which was reviewed by an editing committee, including Messrs. Johnson, Sutherland, Tenney, Wall, and Weiler. The revised report was submitted to all head State supervisors and teacher trainers of agricultural education for their review and comments. The material was again revised by R. E. Taylor in an effort to encompass those suggestions that were not in conflict with each other and yet in harmony with the expressed views of the National Committee. This revised report then was reviewed by a subcommittee at the time of the 1964 National FFA Convention in Kansas City, Mo., to make further changes as deemed essential. This subcommittee was comprised of R. E. Taylor, W. G. Weiler, S. S. Sutherland, and F. D. Johnson. A final review was made by agriculturists in the Vocational and Technical Education Division of the U.S. Office of Education.

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